

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING						FORM 3 AMENDED REPORT				
<b>APPLICATION FOR PERMIT TO DRILL</b>						1. WELL NAME and NUMBER Ute Tribal 18-16J				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT ANTELOPE CREEK				
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME ANTELOPE CREEK				
6. NAME OF OPERATOR PETROGLYPH OPERATING CO						7. OPERATOR PHONE 208 685-7674				
8. ADDRESS OF OPERATOR 960 Broadway Ave, Ste 500, Bosie, ID, 83703						9. OPERATOR E-MAIL bwest@pgei.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) BIA 14-20-H62-3512			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN') Ute Indian Tribe			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL		FOOTAGES		QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN		
LOCATION AT SURFACE		900 FSL 687 FEL		SESE	18	5.0 S	3.0 W	U		
Top of Uppermost Producing Zone		1570 FSL 150 FWL		NWSW	17	5.0 S	3.0 W	U		
At Total Depth		1570 FSL 150 FWL		NWSW	17	5.0 S	3.0 W	U		
21. COUNTY DUCHESTER			22. DISTANCE TO NEAREST LEASE LINE (Feet) 687			23. NUMBER OF ACRES IN DRILLING UNIT 640				
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 783			26. PROPOSED DEPTH MD: 6145 TVD: 6009				
27. ELEVATION - GROUND LEVEL 6145			28. BOND NUMBER LP4138153			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8342				
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
COND	20	14	0 - 40	5.0	Unknown	10.0	Class G	25	1.17	15.8
SURF	12.25	8.625	0 - 480	24.0	J-55 ST&C	10.0	Class G	220	1.17	15.8
PROD	7.875	5.5	0 - 6145	15.5	J-55 LT&C	10.0	Class G	467	1.92	12.5
							Class G	333	1.46	13.4
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Ed Trotter				TITLE Agent			PHONE 435 789-4120			
SIGNATURE				DATE 01/27/2012			EMAIL edtrotter@easilink.com			
API NUMBER ASSIGNED 43013512000000				APPROVAL  Permit Manager						

**CONFIDENTIAL**  
**EIGHT POINT DRILLING PLAN**  
**PETROGLYPH OPERATING COMPANY, INC**  
**UTE TRIBAL 18-16J**  
**SE SE, SEC 18, T5S, R3W**  
**DUCHESNE COUNTY, UTAH**

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:**

Formation		Subsea	TVD	MD
Surface Formation=Uinta				
Unita		6145	0	0
Green River		4600	1545	1556
Trona		3520	2625	2682
Mahogany Shale		3373	2772	2835
"B" Marker	Waterflood Unit Interval	2273	3872	3984
"X" Marker		1794	4351	4477
Douglas Creek Marker		1643	4502	4631
"B" Limestone		1256	4889	5024
Base Castle Peak Limestone		702	5443	5578
BSCARB		293	5852	5988
Wasatch		28	NDE	NDE
Rig TD		152	6009	6145

**2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERAL FORMATIONS:**

<u>Substance</u>	<u>Formation</u>	<u>SUBSEA</u>	<u>TVD</u>	<u>MD</u>
Base of moderately saline ground water*	not present	6150	-5	-5
Oil/Gas	Douglas Creek	1643	4502	4631
Oil/Gas	B/Castle Peak	702	5443	5578

Any water encountered during drilling shall be sampled, analyzed and reported to the BLM Vernal office using State of Utah DOGM Form 7 *Report of Water Encountered during Drilling*. The following analyses shall be performed on any water encountered:

Flow rate (or blowtest)	Temperature	pH	TDS
Dissolved Iron	Dissolved Magnesium	Dissolved Bicarb.	Dissolved Sulfate
Dissolved Calcium	Dissolved Sodium	Dissolved Carbonate	Dissolved Chloride

All depths through the "Base of moderately saline ground water"\*, along with any water encountered below that depth which is less than 10,000 TDS, shall be protected by the surface casing or by lifting the cement of the production casing into the surface casing.

\*Base of Moderately Saline Groundwater from Howells, Longson and Hunt, 1981, Utah State Technical Publication 92: The Base of the Moderately Saline Water in the Uinta Basin, Utah

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**3. PROPOSED CASING PROGRAM:**

String	Hole	Casing	Top - MD	Bottom - MD	Weight lb/ft	Grade	Thread
Conductor	20"	14"	surface	40'	steel	Cond'r	none
Surface	12-1/4"	8-5/8"	surface	480'	24	J-55	STC
Production	7-7/8"	5-1/2"	surface	6145'	15.5	J-55	LTC

String	Hole	Casing	Collapse	Burst	Tensile
Surface	12-1/4"	8-5/8"	1,370 psi	2,950 psi	244,000 lb
Production	7-7/8"	5-1/2"	4,040 psi	4,810 psi	248,000 lb

- All casing will be new or inspected.
- The surface and production strings shall have a minimum of one (1) centralizer on each of the bottom three (3) joints.
- The production string shall have a minimum of one (1) centralizer for every two (2) joints from TD to the top of the "B" marker at 3984' MD, and (1) centralizer per 200' from 3984' to 480' MD.

**4. PROPOSED CEMENTING PROGRAM:**

String	Top	Cement Description	Sacks	Excess	Weight (ppg)	Yield (ft³/sk)
	Bottom		Vol (ft³)			
Conductor	0 ----- 40	Construction Grade Cement	Sufficient volumes to grout Conductor			
Surface	0 ----- 480	Class G +2% CaCl2 +0.25 lb/sk Cello Flake	220 ----- 258	30%	15.8	1.17
Production Lead	0 ----- 3984	EXPANDACEM (Class G +additives) + 1 lb/sk Granulite TR¼ (LCM)	467 ----- 898	30%	12.5	1.92
Production Tail	3984 ----- 6145	EXPANDACEM (Class G +additives) + 1 lb/sk Granulite TR¼ (LCM)	333 ----- 487	30%	13.4	1.46

- The 8-5/8" surface casing shall be cemented back to surface. In the event that during the primary surface cementing operation the cement does not circulate to surface, or if the cement level should fall back more than 8 feet from surface, then a remedial surface cementing operation shall be performed to insure adequate isolation and stabilization of the surface casing.
- The 5-1/2" production casing shall be cemented back to surface. In the event that during the primary longstring cementing operation the cement does not circulate to surface, a remedial cementing operation shall be performed only if necessary to lift cement above the Trona at 2682' MD

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**5. MINIMUM PRESSURE CONTROL AND SAFETY EQUIPMENT:**

- An 8", 2000 PSI, Double Ram BOPE with Hydraulic Closing Unit shall be used.
- A 2000 PSI Working Pressure Annular shall be used
- The flowline shall have a minimum diameter of 10".
- Auxiliary equipment shall be a Kelly Cock, Bit Float, and a TIW valve with drill pipe threads
- Spark arrestors shall be equipped on all engine exhausts within 100 feet of the wellbore.
- See attached 2,000 psi BOP schematic diagram.

**BOPE TESTING PROCEDURE:**

- The BOPE shall be tested by a professional tester to conform to Onshore Order #2.

**6. MUD PROGRAM:**

**A. SURFACE HOLE**

- The surface hole will be drilled with an air/mist system from 0' to 480'. All cuttings shall be directed to pit.
- A trailer-mounted compressor with a capacity of 2000 CFM will be used. Compressor will have a safety shut-off valve located less than 15 feet from the driller's controls of the rig.
- The rat and mouse holes will be drilled with the air rig after surface casing is cemented.
- The 140 barrel water truck used with the deduster will be the source of kill fluid in the highly unlikely event of pressure being encountered during drilling of the surface hole.
- Operator requests the following variances from Onshore Order 2 part E during drilling of the surface hole. Operator will use air drilling techniques ONLY on surface hole:
  - Operator requests a variance to regulations requiring the blooie line discharge to be 100' from the wellbore. Due to reduced location size, the blooie line discharge will be approximately 75' from the wellbore and securely anchored.
  - Operator requests a variance to regulations requiring an automatic igniter or continuous pilot light on the blooie line. A mister shall be on the end of the blooie line.
  - Operator requests a variance to regulations requiring compressors be located in the opposite direction from the blooie line; a minimum of 100' from the wellbore. Due to the reduced location size, the compressors shall be located as close as is reasonable to the opposite direction from the blooie line and 75' from the wellbore.
  - Operator requests a variance to regulations requiring a BOPE on the hole when drilling the surface hole. An air bowl shall be utilized on the diverter system in place of a BOPE.



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**B. PRODUCTION HOLE**

- The production hole shall be drilled with a freshwater polymer/gel system from 480' to 6145'. LSND mud if conditions warrant.
- Clay inhibition and hole stability shall be achieved with a Diammonium Phosphate (DAP) additive or similar source of clay-stabilizing ions. Anticipated mud weight is 8.4-8.8 lbs/gal, although mud weight up to 10 lbs/gal may be used if necessary to prevent wellbore wall instability due to the planned inclination of the well.
- All cuttings and circulating medium shall be directed into the reserve pit.
- Sufficient mud inventory will be maintained on location in either tanks or the reserve pit during the drilling of the production hole to handle any adverse conditions that may arise.
- If necessary to control formation fluids or pressure, the system will be weighted with the addition of bentonite gel, and if pressure conditions warrant, with barite. Enough material shall be maintained on location to allow for the mud weight to be raised to 10.5 lbs/gal should need arise.
- During drilling operations, pit levels and flow from the well shall be monitored by instrumentation to include at least: a pit volume totalizer (PVT), a stroke counter, and a mud-flow indicator.
- A mud-gas separator shall be available on location. Operator does not plan on using a gas detector on the mud return due to the fact that any abnormal pressure is the result of offset water injection.

**C. HAZARDOUS MATERIALS AND CHEMICALS**

- Chromate additives **shall NOT** be used in the mud system on Indian lands without prior BLM approval to ensure adequate protection of freshwater aquifers.
- Chemicals subject to reporting under SARA Title III in an amounts equal to or greater than 10,000 pounds annually **shall NOT** be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of this well.
- Extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities **shall NOT** be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of this well.
- Hazardous substances specifically listed by the EPA as a hazardous waste, as defined in 40 CFR 261 (D), or any substances that through their use would lead to the generation of a hazardous waste, **shall NOT** be used in association with the drilling, testing, or completion of this well.



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**7. EVALUATION PROGRAM:**

Logs:	Triple Combo	TD to base of surface casing (AIT, DSN, CDL) Base of surface casing to surface (GR)
Cores:	None planned	
DST:	None planned	
Testing:	Operator plans no testing until the completion phase of the well.	

**8. ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:**

- Operator anticipates Bottom Hole Temperatures below 150°F, the maximum temperature for DAP drilling fluids.
- No H<sub>2</sub>S has been encountered or is known to exist from previous drilling in the area at this depth.
- Maximum pressure for hydrocarbon bearing zones at native conditions in this area is approximately 1536.25 PSI (0.25 PSI/ft gradient).
- This well is in the vicinity of active injection wells. Nearby active injection can cause pressures up to a 0.433 PSI/ft gradient (2661 PSI).

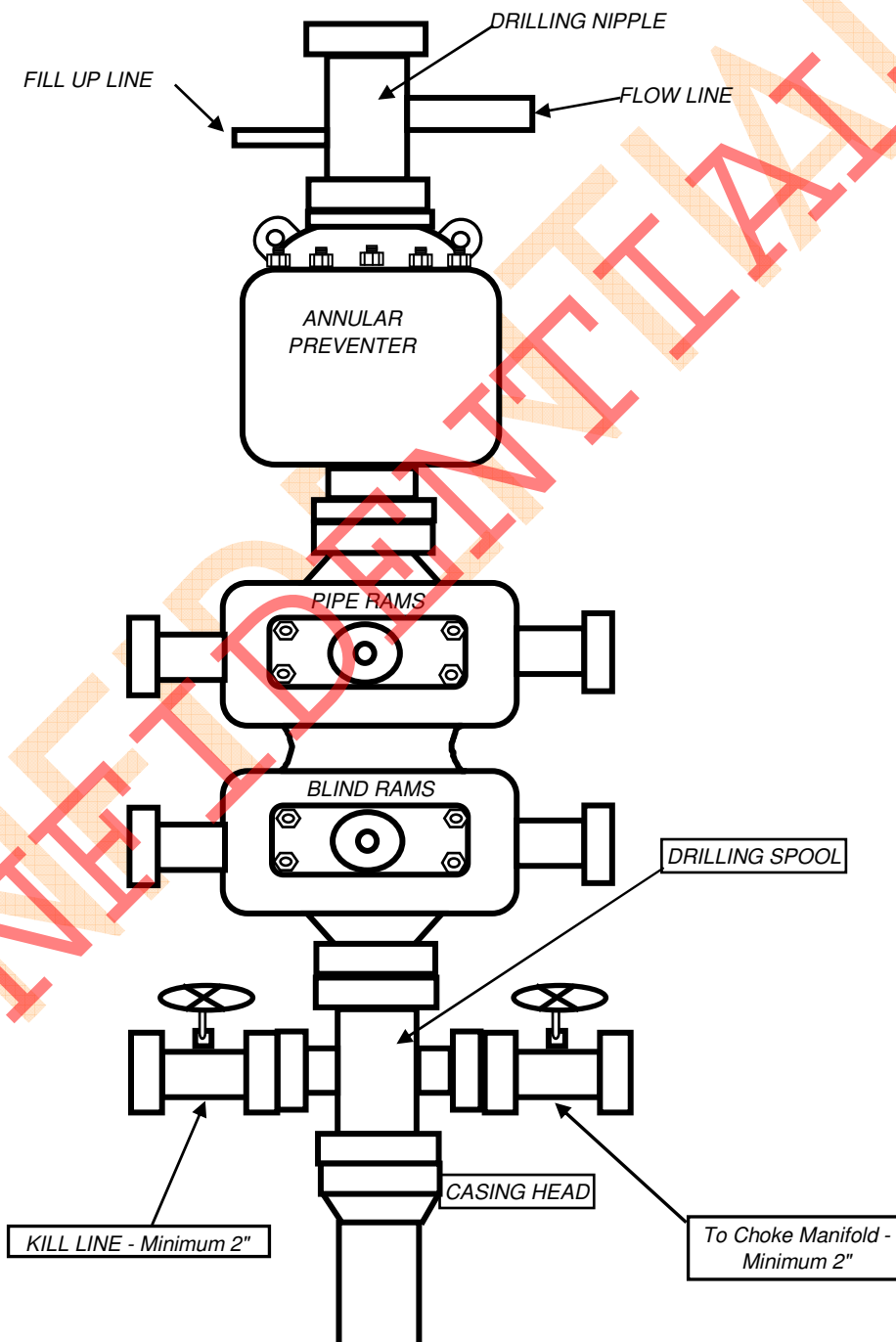
**9. DIRECTIONAL WELL PLAN:**

- Well shall be drilled directionally in order to limit surface disturbance.
- A Positive Displacement Motor with a bent sub of 1.25° to 1.75° will be used to control well path.
- A directional survey shall be taken at least one (1) time per 100' of drilling.
- Anti-collision equipment will not be used as there are no existing wells in the vicinity of the proposed well path.
- While cutting the Waterflood Unit Interval from 3984' to 5988', the actual well path may be allowed to vary up to 100' horizontally from plan in order to prevent excessive slide drilling. Above and below the Waterflood Unit Interval, variances in excess 100' horizontally from plan may be allowed.
- Directional drilling plan is attached.



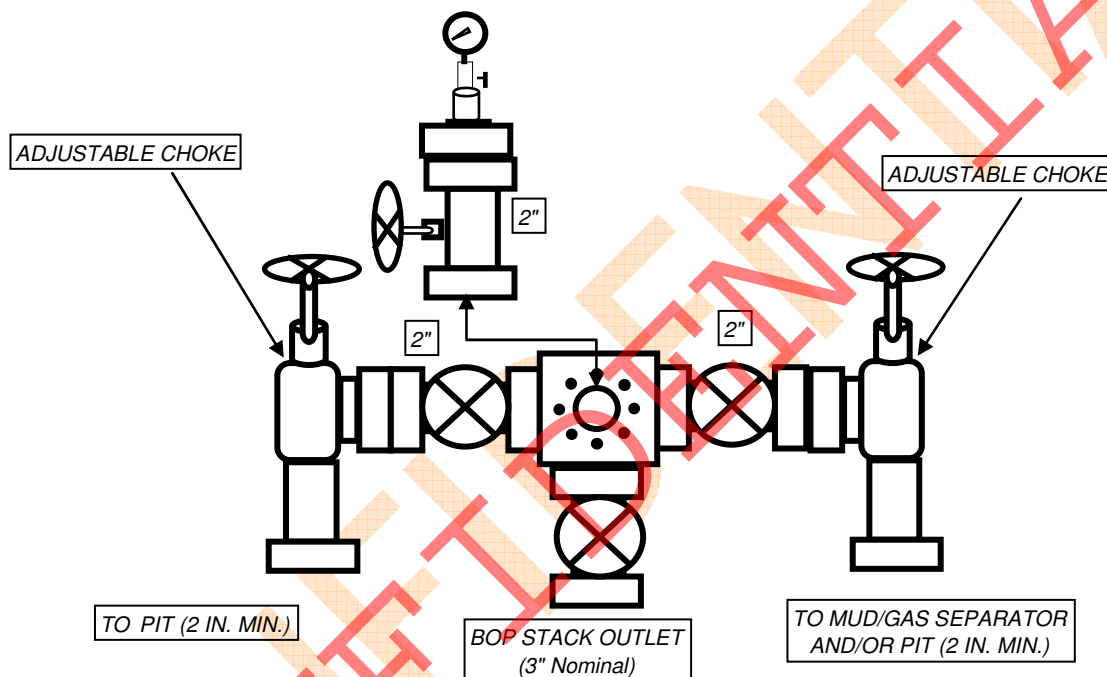
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**TYPICAL 2,000 p.s.i. BLOWOUT PREVENTER**

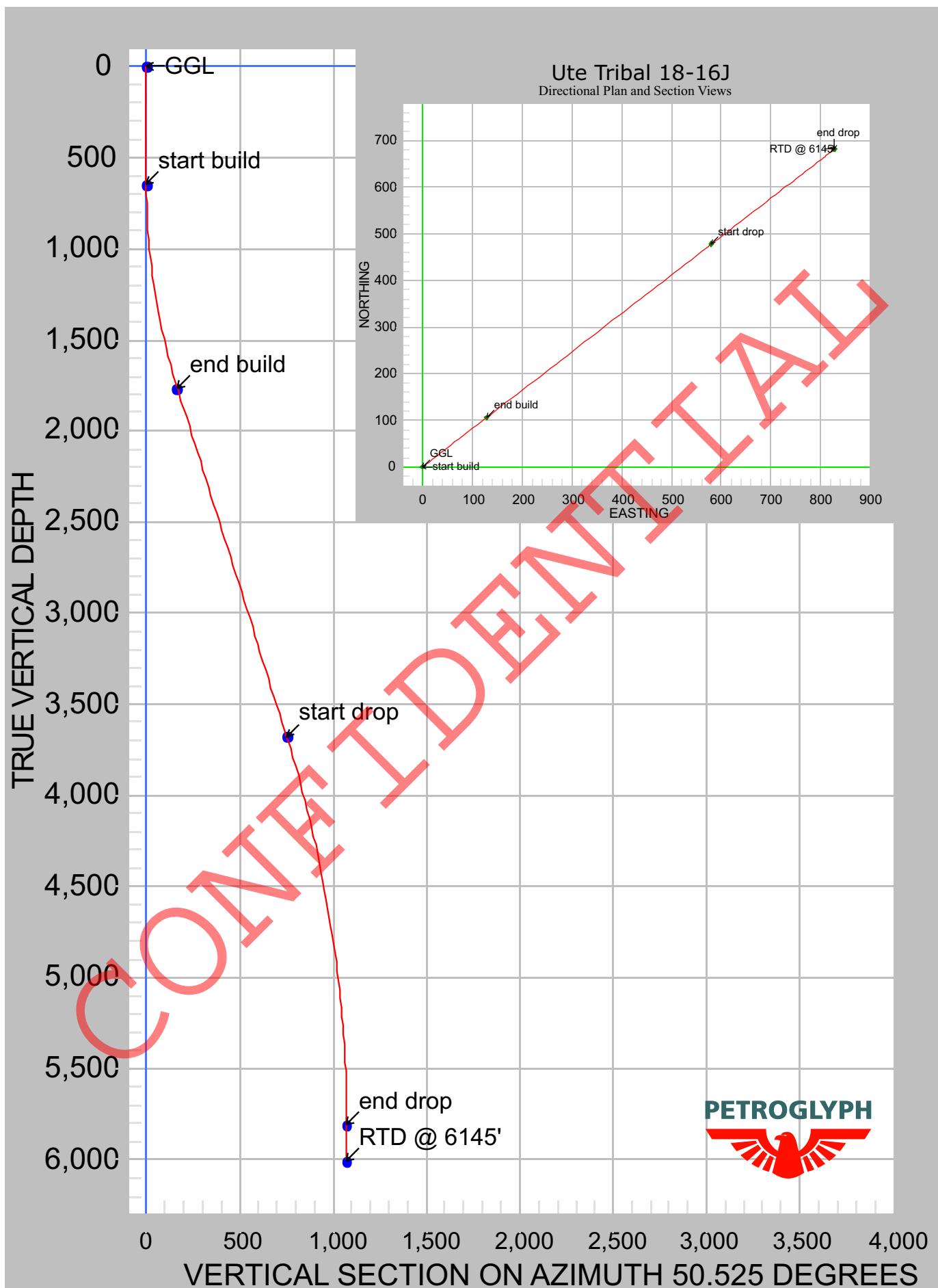


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**TYPICAL 2,000 p.s.i. CHOKE MANIFOLD**







## Ute Tribal 18-16J, Plan 1

Ute Tribal 18-16J, Plan 1										
Operator	Petroglyph Operating Company			Units	feet, %100ft		01:44 Wednesday, December 14, 2011 Page 1 of 4			
Field	Antelope Creek			County	Duchesne		Vertical Section Azimuth		50.525	
Well Name	Ute Tribal 18-16J			State	Utah		Survey Calculation Method		Minimum Curvature	
Plan	1			Country	USA		Database		Access	
Location	900 FSL 687 FEL S18 T5S R3W					MapZone				
Site	BHL 1570 FSL 150 FWL S17 T5S R3W					SurfaceX				
Slot Name	UWI					SurfaceY				
Well Number	API					Z Datum				
Project						Surface Z	Ground Level		6145	
DIRECTIONAL WELL PLAN										
MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%100ft	ft	ft	ft	ft
*** GGL (at MD = 0.00)										
0.00	0.00	0.0	0.00	0.00	0.00		0.00			
50.00	0.00	0.0	50.00	0.00	0.00	0.00	0.00			
100.00	0.00	0.0	100.00	0.00	0.00	0.00	0.00			
150.00	0.00	0.0	150.00	0.00	0.00	0.00	0.00			
200.00	0.00	0.0	200.00	0.00	0.00	0.00	0.00			
250.00	0.00	0.0	250.00	0.00	0.00	0.00	0.00			
300.00	0.00	0.0	300.00	0.00	0.00	0.00	0.00			
350.00	0.00	0.0	350.00	0.00	0.00	0.00	0.00			
400.00	0.00	0.0	400.00	0.00	0.00	0.00	0.00			
450.00	0.00	0.0	450.00	0.00	0.00	0.00	0.00			
500.00	0.00	0.0	500.00	0.00	0.00	0.00	0.00			
550.00	0.00	0.0	550.00	0.00	0.00	0.00	0.00			
600.00	0.00	0.0	600.00	0.00	0.00	0.00	0.00			
*** START BUILD (at MD = 650.00)										
650.00	0.00	0.0	650.00	0.00	0.00	0.00	0.00			
700.00	0.75	50.5	700.00	0.21	0.25	1.50	0.33			
750.00	1.50	50.5	749.99	0.83	1.01	1.50	1.31			
800.00	2.25	50.5	799.96	1.87	2.27	1.50	2.94			
850.00	3.00	50.5	849.91	3.33	4.04	1.50	5.23			
900.00	3.75	50.5	899.82	5.20	6.31	1.50	8.18			
950.00	4.50	50.5	949.69	7.49	9.09	1.50	11.77			
1000.00	5.25	50.5	999.51	10.19	12.37	1.50	16.02			
1050.00	6.00	50.5	1049.27	13.30	16.15	1.50	20.92			
1100.00	6.75	50.5	1098.96	16.83	20.44	1.50	26.48			
1150.00	7.50	50.5	1148.57	20.77	25.22	1.50	32.68			
1200.00	8.25	50.5	1198.10	25.13	30.51	1.50	39.53			
1250.00	9.00	50.5	1247.54	29.90	36.30	1.50	47.03			
1300.00	9.75	50.5	1296.87	35.08	42.59	1.50	55.17			
1350.00	10.50	50.5	1346.09	40.66	49.37	1.50	63.96			
1400.00	11.25	50.5	1395.19	46.66	56.65	1.50	73.39			
1450.00	12.00	50.5	1444.16	53.07	64.43	1.50	83.47			
1500.00	12.75	50.5	1493.00	59.88	72.70	1.50	94.19			
1550.00	13.50	50.5	1541.70	67.10	81.47	1.50	105.54			
1600.00	14.25	50.5	1590.24	74.72	90.72	1.50	117.53			
1650.00	15.00	50.5	1638.62	82.74	100.47	1.50	130.15			

## Ute Tribal 18-16J, Plan 1

<b>Operator</b>	Petroglyph Operating Company	<b>Units</b>	feet, %100ft	01:44 Wednesday, December 14, 2011	Page 2 of 4
<b>Field</b>	Antelope Creek	<b>County</b>	Duchesne	<b>Vertical Section Azimuth</b>	50.525
<b>Well Name</b>	Ute Tribal 18-16J	<b>State</b>	Utah	<b>Survey Calculation Method</b>	Minimum Curvature
<b>Plan</b>	1	<b>Country</b>	USA	<b>Database</b>	Access

<b>Location</b>	900 FSL 687 FEL S18 T5S R3W	<b>MapZone</b>		<b>Lat Long Ref</b>	
<b>Site</b>	BHL 1570 FSL 150 FWL S17 T5S R3W	<b>SurfaceX</b>		<b>Surface Long</b>	
<b>Slot Name</b>		<b>SurfaceY</b>		<b>Surface Lat</b>	
<b>Well Number</b>		<b>Z Datum</b>			
<b>Project</b>		<b>Surface Z</b>		<b>Ground Level</b>	6145

## DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%100ft	ft	ft	ft	ft
1700.00	15.75	50.5	1686.83	91.17	110.70	1.50	143.41			
1750.00	16.50	50.5	1734.86	100.00	121.42	1.50	157.30			
*** END BUILD (at MD = 1783.33)										
1783.33	17.00	50.5	1766.78	106.11	128.83	1.50	166.90			
1800.00	17.00	50.5	1782.72	109.21	132.59	0.00	171.78			
1850.00	17.00	50.5	1830.53	118.50	143.88	0.00	186.40			
1900.00	17.00	50.5	1878.35	127.79	155.16	0.00	201.01			
1950.00	17.00	50.5	1926.16	137.09	166.45	0.00	215.63			
2000.00	17.00	50.5	1973.98	146.38	177.73	0.00	230.25			
2050.00	17.00	50.5	2021.79	155.67	189.02	0.00	244.87			
2100.00	17.00	50.5	2069.61	164.97	200.30	0.00	259.49			
2150.00	17.00	50.5	2117.42	174.26	211.58	0.00	274.11			
2200.00	17.00	50.5	2165.24	183.55	222.87	0.00	288.73			
2250.00	17.00	50.5	2213.05	192.85	234.15	0.00	303.34			
2300.00	17.00	50.5	2260.87	202.14	245.44	0.00	317.96			
2350.00	17.00	50.5	2308.68	211.44	256.72	0.00	332.58			
2400.00	17.00	50.5	2356.50	220.73	268.00	0.00	347.20			
2450.00	17.00	50.5	2404.31	230.02	279.29	0.00	361.82			
2500.00	17.00	50.5	2452.13	239.32	290.57	0.00	376.44			
2550.00	17.00	50.5	2499.94	248.61	301.86	0.00	391.06			
2600.00	17.00	50.5	2547.76	257.90	313.14	0.00	405.67			
2650.00	17.00	50.5	2595.58	267.20	324.42	0.00	420.29			
2700.00	17.00	50.5	2643.39	276.49	335.71	0.00	434.91			
2750.00	17.00	50.5	2691.21	285.78	346.99	0.00	449.53			
2800.00	17.00	50.5	2739.02	295.08	358.28	0.00	464.15			
2850.00	17.00	50.5	2786.84	304.37	369.56	0.00	478.77			
2900.00	17.00	50.5	2834.65	313.67	380.85	0.00	493.39			
2950.00	17.00	50.5	2882.47	322.96	392.13	0.00	508.00			
3000.00	17.00	50.5	2930.28	332.25	403.41	0.00	522.62			
3050.00	17.00	50.5	2978.10	341.55	414.70	0.00	537.24			
3100.00	17.00	50.5	3025.91	350.84	425.98	0.00	551.86			
3150.00	17.00	50.5	3073.73	360.13	437.27	0.00	566.48			
3200.00	17.00	50.5	3121.54	369.43	448.55	0.00	581.10			
3250.00	17.00	50.5	3169.36	378.72	459.83	0.00	595.72			
3300.00	17.00	50.5	3217.17	388.01	471.12	0.00	610.33			

## Ute Tribal 18-16J, Plan 1

<b>Operator</b>	Petroglyph Operating Company	<b>Units</b>	feet, %100ft	01:44 Wednesday, December 14, 2011	Page 3 of 4
<b>Field</b>	Antelope Creek	<b>County</b>	Duchesne	<b>Vertical Section Azimuth</b>	50.525
<b>Well Name</b>	Ute Tribal 18-16J	<b>State</b>	Utah	<b>Survey Calculation Method</b>	Minimum Curvature
<b>Plan</b>	1	<b>Country</b>	USA	<b>Database</b>	Access

<b>Location</b>	900 FSL 687 FEL S18 T5S R3W	<b>MapZone</b>		<b>Lat Long Ref</b>	
<b>Site</b>	BHL 1570 FSL 150 FWL S17 T5S R3W	<b>SurfaceX</b>		<b>Surface Long</b>	
<b>Slot Name</b>		<b>SurfaceY</b>		<b>Surface Lat</b>	
<b>Well Number</b>		<b>Z Datum</b>			
<b>Project</b>		<b>Surface Z</b>		<b>Ground Level</b>	6145

## DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%100ft	ft	ft	ft	ft
3350.00	17.00	50.5	3264.99	397.31	482.40	0.00	624.95			
3400.00	17.00	50.5	3312.80	406.60	493.69	0.00	639.57			
3450.00	17.00	50.5	3360.62	415.90	504.97	0.00	654.19			
3500.00	17.00	50.5	3408.43	425.19	516.25	0.00	668.81			
3550.00	17.00	50.5	3456.25	434.48	527.54	0.00	683.43			
3600.00	17.00	50.5	3504.06	443.78	538.82	0.00	698.05			
3650.00	17.00	50.5	3551.88	453.07	550.11	0.00	712.66			
3700.00	17.00	50.5	3599.70	462.36	561.39	0.00	727.28			
3750.00	17.00	50.5	3647.51	471.66	572.68	0.00	741.90			
*** START DROP (at MD = 3783.33)										
3783.33	17.00	50.5	3679.39	477.85	580.20	0.00	751.65			
3800.00	16.87	50.5	3695.33	480.94	583.95	0.78	756.50			
3850.00	16.48	50.5	3743.23	490.06	595.02	0.78	770.85			
3900.00	16.09	50.5	3791.22	498.97	605.84	0.78	784.87			
3950.00	15.70	50.5	3839.31	507.68	616.41	0.78	798.56			
4000.00	15.31	50.5	3887.49	516.17	626.72	0.78	811.92			
4050.00	14.91	50.5	3935.76	524.46	636.78	0.78	824.96			
4100.00	14.52	50.5	3984.12	532.53	646.59	0.78	837.66			
4150.00	14.13	50.5	4032.57	540.40	656.14	0.78	850.03			
4200.00	13.74	50.5	4081.10	548.06	665.44	0.78	862.08			
4250.00	13.35	50.5	4129.70	555.50	674.48	0.78	873.79			
4300.00	12.96	50.5	4178.39	562.74	683.26	0.78	885.17			
4350.00	12.57	50.5	4227.16	569.76	691.79	0.78	896.21			
4400.00	12.18	50.5	4276.00	576.57	700.06	0.78	906.93			
4450.00	11.79	50.5	4324.91	583.17	708.07	0.78	917.31			
4500.00	11.40	50.5	4373.89	589.56	715.83	0.78	927.35			
4550.00	11.00	50.5	4422.93	595.73	723.32	0.78	937.07			
4600.00	10.61	50.5	4472.05	601.69	730.56	0.78	946.44			
4650.00	10.22	50.5	4521.22	607.44	737.54	0.78	955.48			
4700.00	9.83	50.5	4570.46	612.98	744.26	0.78	964.19			
4750.00	9.44	50.5	4619.75	618.30	750.72	0.78	972.56			
4800.00	9.05	50.5	4669.10	623.40	756.92	0.78	980.59			
4850.00	8.66	50.5	4718.51	628.30	762.86	0.78	988.29			
4900.00	8.27	50.5	4767.96	632.97	768.54	0.78	995.65			
4950.00	7.88	50.5	4817.47	637.44	773.96	0.78	1002.67			

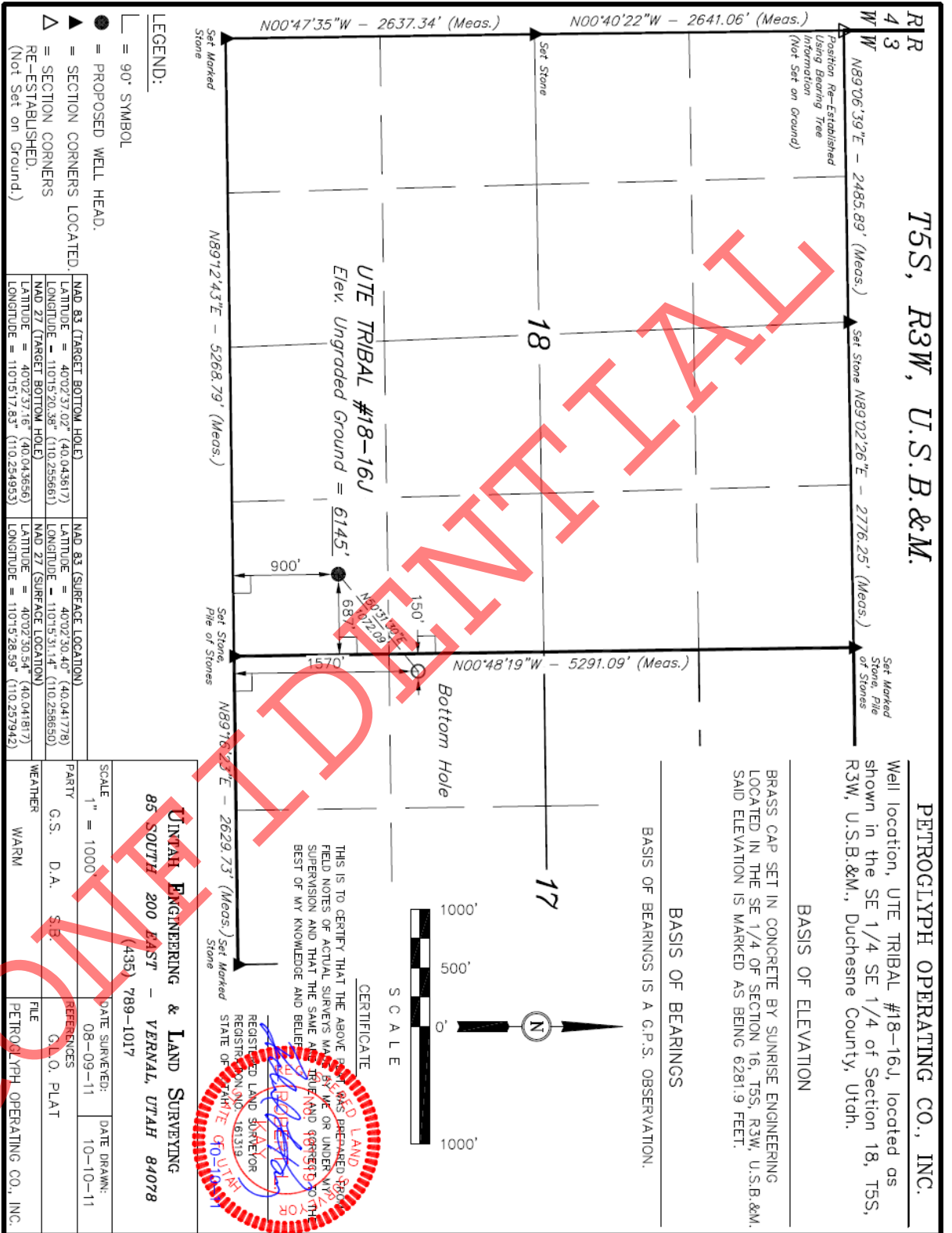
## Ute Tribal 18-16J, Plan 1

<b>Operator</b>	Petroglyph Operating Company	<b>Units</b>	feet, %100ft	01:44 Wednesday, December 14, 2011	Page 4 of 4
<b>Field</b>	Antelope Creek	<b>County</b>	Duchesne	<b>Vertical Section Azimuth</b>	50.525
<b>Well Name</b>	Ute Tribal 18-16J	<b>State</b>	Utah	<b>Survey Calculation Method</b>	Minimum Curvature
<b>Plan</b>	1	<b>Country</b>	USA	<b>Database</b>	Access

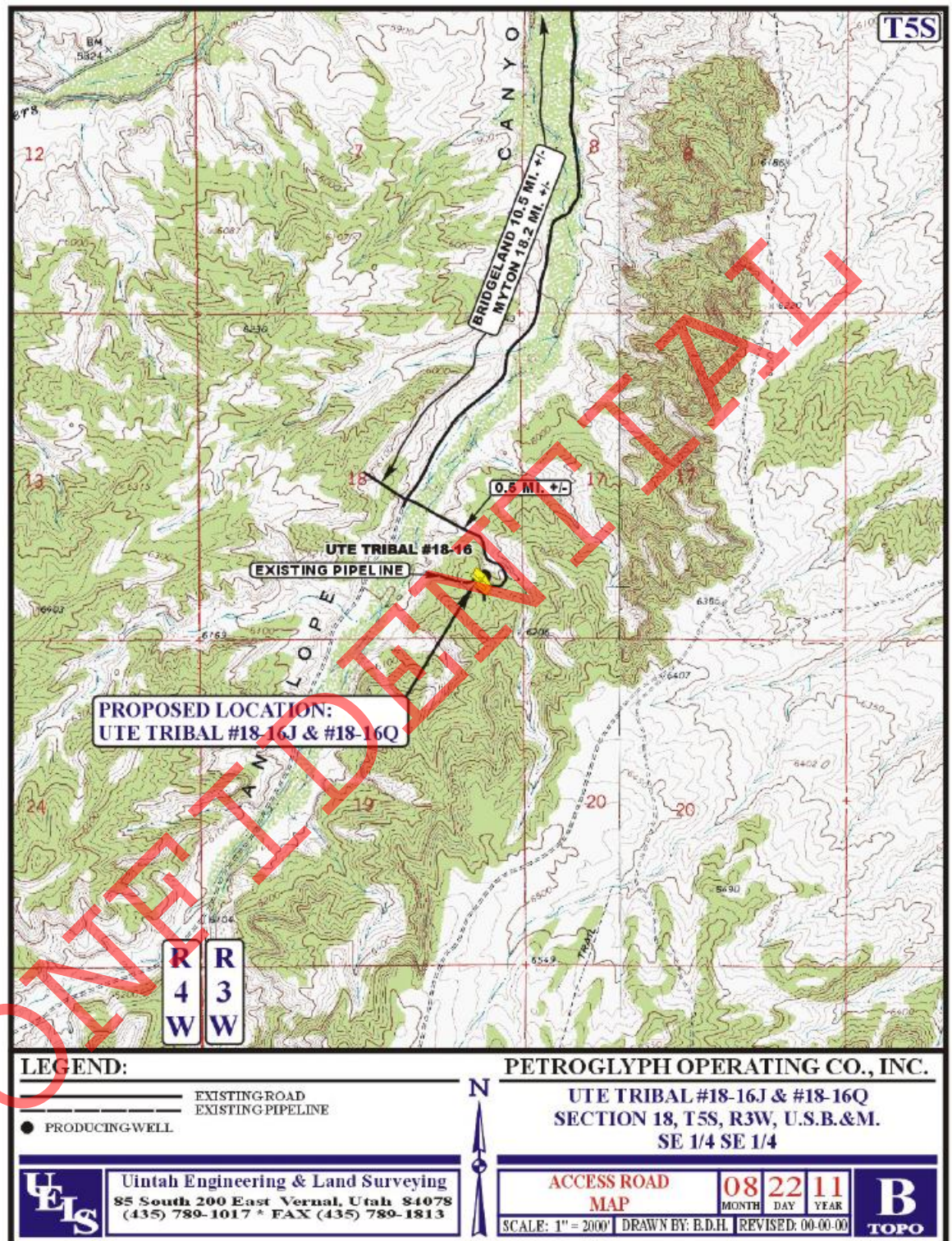
<b>Location</b>	900 FSL 687 FEL S18 T5S R3W	<b>MapZone</b>		<b>Lat Long Ref</b>	
<b>Site</b>	BHL 1570 FSL 150 FWL S17 T5S R3W	<b>SurfaceX</b>		<b>Surface Long</b>	
<b>Slot Name</b>		<b>SurfaceY</b>		<b>Surface Lat</b>	
<b>Well Number</b>		<b>Z Datum</b>			
<b>Project</b>		<b>Surface Z</b>		<b>Ground Level</b>	6145

## DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%100ft	ft	ft	ft	ft
5000.00	7.49	50.5	4867.02	641.69	779.12	0.78	1009.35			
5050.00	7.09	50.5	4916.61	645.72	784.02	0.78	1015.70			
5100.00	6.70	50.5	4966.25	649.54	788.65	0.78	1021.70			
5150.00	6.31	50.5	5015.93	653.14	793.03	0.78	1027.37			
5200.00	5.92	50.5	5065.64	656.53	797.14	0.78	1032.70			
5250.00	5.53	50.5	5115.40	659.70	800.99	0.78	1037.69			
5300.00	5.14	50.5	5165.18	662.66	804.58	0.78	1042.34			
5350.00	4.75	50.5	5214.99	665.40	807.91	0.78	1046.64			
5400.00	4.36	50.5	5264.83	667.92	810.97	0.78	1050.61			
5450.00	3.97	50.5	5314.70	670.23	813.77	0.78	1054.24			
5500.00	3.58	50.5	5364.59	672.32	816.31	0.78	1057.53			
5550.00	3.18	50.5	5414.51	674.19	818.59	0.78	1060.48			
5600.00	2.79	50.5	5464.44	675.85	820.60	0.78	1063.09			
5650.00	2.40	50.5	5514.39	677.29	822.35	0.78	1065.35			
5700.00	2.01	50.5	5564.35	678.51	823.83	0.78	1067.28			
5750.00	1.62	50.5	5614.33	679.52	825.06	0.78	1068.86			
5800.00	1.23	50.5	5664.31	680.31	826.02	0.78	1070.11			
5850.00	0.84	50.5	5714.30	680.89	826.71	0.78	1071.01			
5900.00	0.45	50.5	5764.30	681.24	827.15	0.78	1071.57			
*** END DROP (at MD = 5944.46)										
5944.46	0.10	50.5	5808.76	681.38	827.31	0.78	1071.78			
5950.00	0.10	50.5	5814.30	681.38	827.32	0.00	1071.79			
6000.00	0.10	50.5	5864.30	681.44	827.39	0.00	1071.88			
6050.00	0.10	50.5	5914.30	681.49	827.45	0.00	1071.97			
6100.00	0.10	50.5	5964.30	681.55	827.52	0.00	1072.05			
*** RTD @ 6145' (at MD = 6144.46)										
6144.46	0.10	50.5	6008.76	681.60	827.58	0.00	1072.13			







### Certification

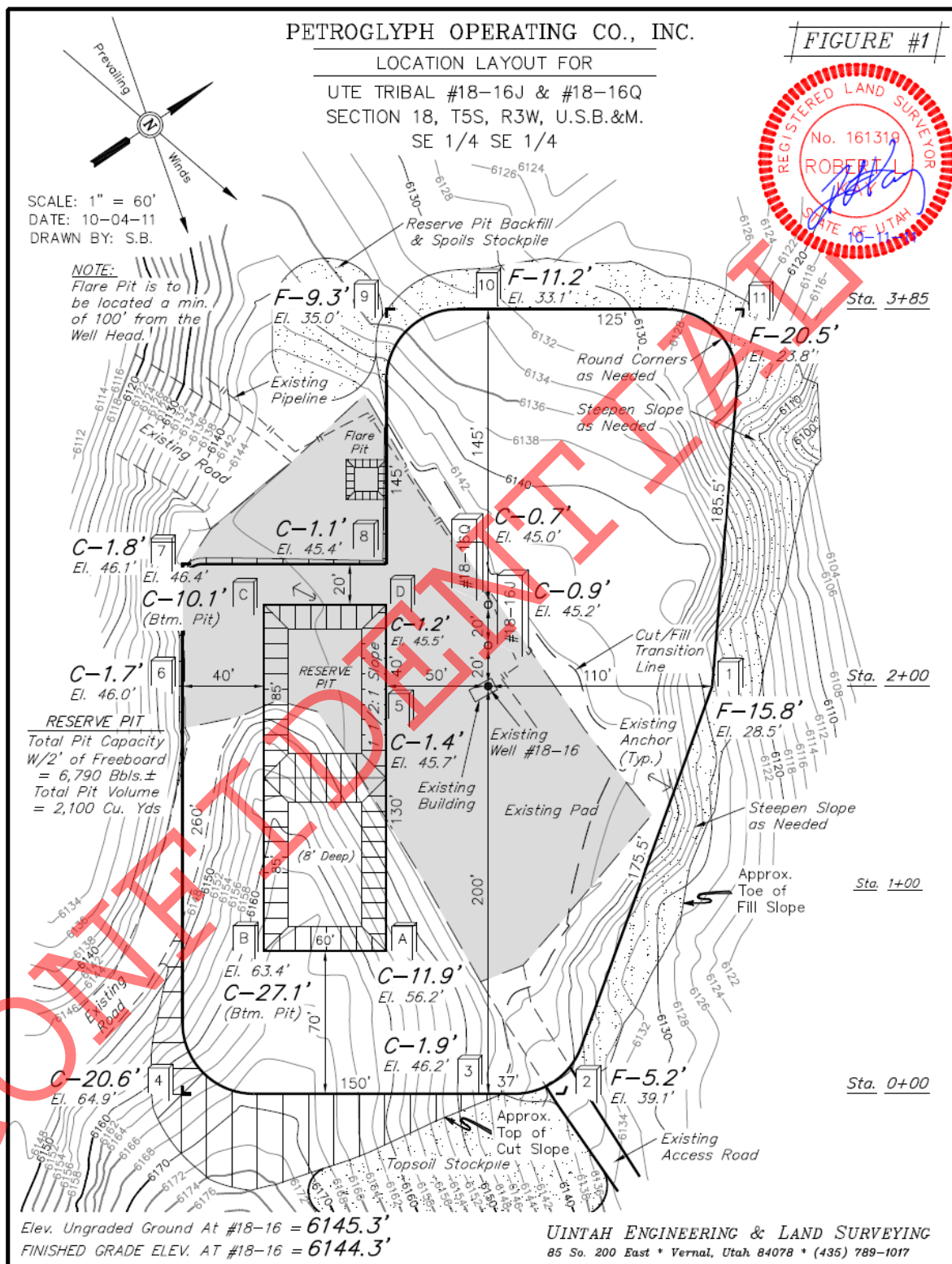
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that presently exist; that the statements made in the Plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Petroglyph Operating Co., Inc. and its contractors and subcontractors in conformity with this Plan and the terms and conditions under which it is approved.

Please be advised that Petroglyph Operating Co., Inc. is considered to be the operator of the **UTE TRIBAL 18-16J Well, located in the SE/SE of Section 18, T5S, R3W, Duchesne County, Utah; Lease #14-20-H62-3512;** and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is provided under Bond #LP4138153.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ed Trotter, as Agent for  
Petroglyph Operating Co., Inc.





**PETROGLYPH OPERATING CO., INC.**  
**P.O. BOX 607**  
**ROOSEVELT, UTAH 84066**

January 10, 2012

Ms. Diana Mason  
State of Utah  
Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

Re: Directional Drilling R649-3-11

Ute Tribal 18-16J: 900' FSL & 687' FEL, SE/SE, Sec. 18 (Surface Hole)  
1570' FSL & 150' FWL, NW/SW, SEC. 17 (Bottom Hole)  
T5S, R3W, U.S.B.&M., Duchesne County, Utah

Dear Ms. Mason,

Pursuant to the filing of Petroglyph Operating Co., Inc.'s Application for Permit to Drill regarding the above referenced well on January 10, 2012, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- The Ute Tribal 18-16J is located within the Antelope Creek Unit Area.
- Petroglyph Operating Co., Inc. is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and drilling directionally from this location, Petroglyph Operating Co., Inc. will be able to utilize the existing road and pipelines in the area.
- Furthermore, Petroglyph Operating Co., Inc. hereby certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

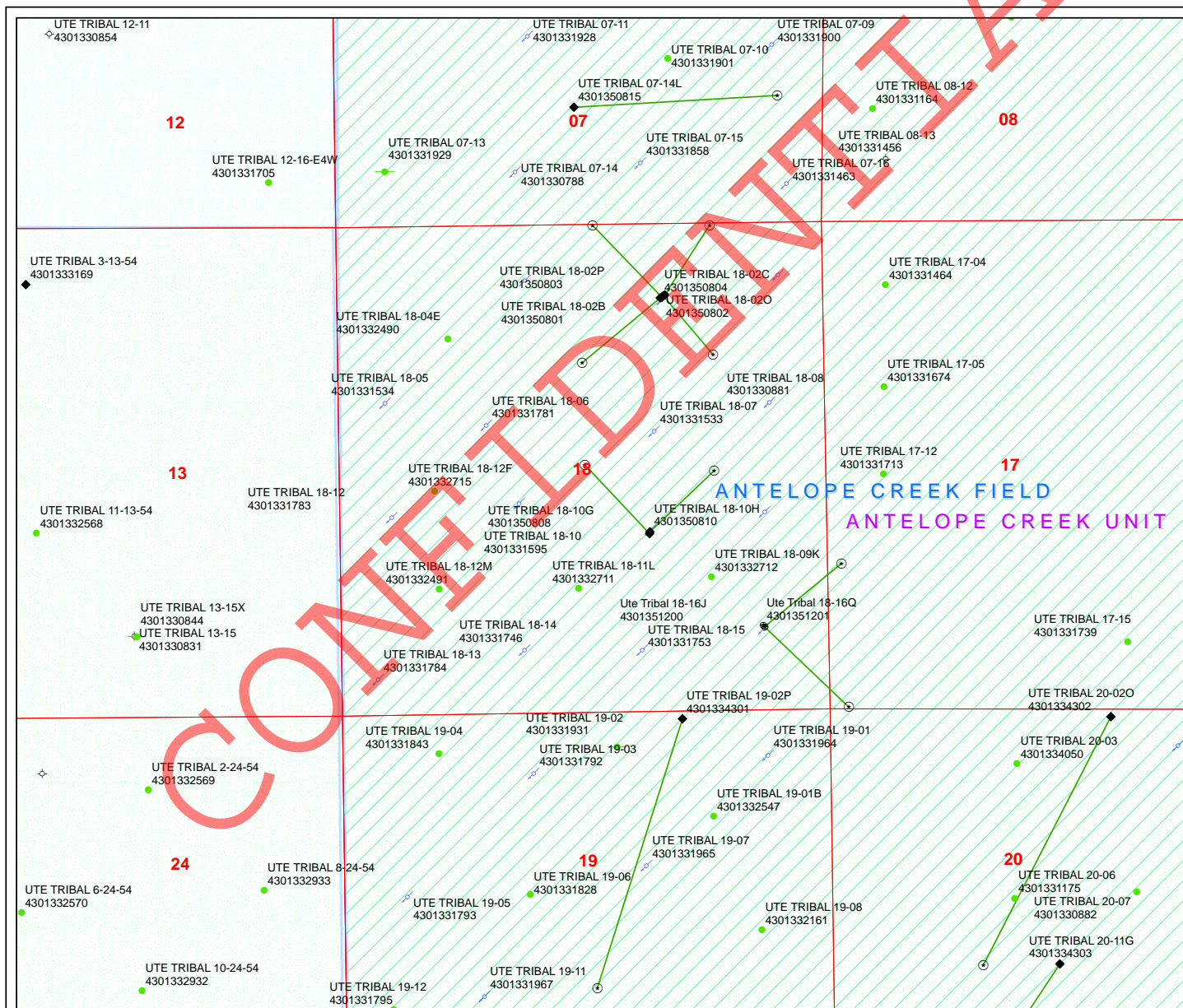
Therefore, based on the above stated information, Petroglyph Operating Co., Inc. requests the permit be granted pursuant to R649-3-11.

Respectfully Submitted,

Ed Trotter,  
Agent  
P.O. Box 1910  
Vernal, UT 84078  
Phone: (435)789-4120  
Fax: (435)789-1420  
E-mail: edtrotter@easilink.com

RECEIVED: January 27, 2012





API Number: 4301351200

Well Name: Ute Tribal 18-16J

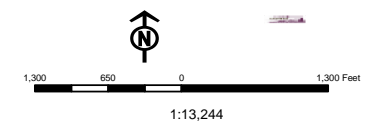
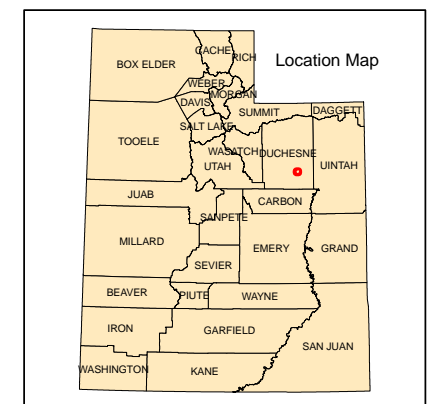
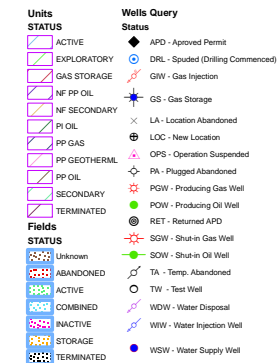
Township T0.5 . Range R0.3 . Section 18

Meridian: UBM

Operator: PETROGLYPH OPERATING CO

Map Prepared:

Map Produced by Diana Mason



## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 1/27/2012

API NO. ASSIGNED: 43013512000000

WELL NAME: Ute Tribal 18-16J

OPERATOR: PETROGLYPH OPERATING CO (N3800)

PHONE NUMBER: 435 789-4120

CONTACT: Ed Trotter

PROPOSED LOCATION: SESE 18 050S 030W

Permit Tech Review: ☒

SURFACE: 0900 FSL 0687 FEL

Engineering Review: ☐

BOTTOM: 1570 FSL 0150 FWL

Geology Review: ☒

COUNTY: DUCHESNE

LATITUDE: 40.04183

LONGITUDE: -110.25876

UTM SURF EASTINGS: 563234.00

NORTHINGS: 4432663.00

FIELD NAME: ANTELOPE CREEK

LEASE TYPE: 2 - Indian

LEASE NUMBER: BIA 14-20-H62-3512

PROPOSED PRODUCING FORMATION(S): CASTLE PEAK

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

☒ PLAT☒ Bond: INDIAN - LP4138153☐ Potash☐ Oil Shale 190-5☐ Oil Shale 190-3☐ Oil Shale 190-13☒ Water Permit: 43-8342☐ RDCC Review:☐ Fee Surface Agreement☐ Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

☐ R649-2-3.

Unit: ANTELOPE CREEK

☐ R649-3-2. General☐ R649-3-3. Exception☒ Drilling Unit

Board Cause No: Cause 214-2

Effective Date: 6/9/2000

Siting: Suspends General Siting

☒ R649-3-11. Directional DrillComments: Presite Completed  
ENH REC PROJ:Stipulations: 4 - Federal Approval - dmason  
15 - Directional - dmason

RECEIVED: February 02, 2012





## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** Ute Tribal 18-16J

**API Well Number:** 43013512000000

**Lease Number:** BIA 14-20-H62-3512

**Surface Owner:** INDIAN

**Approval Date:** 2/2/2012

**Issued to:**

PETROGLYPH OPERATING CO, 960 Broadway Ave, Ste 500, Bosie, ID 83703

**Authority:**

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 214-2. The expected producing formation or pool is the CASTLE PEAK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas

API Well No: 43013512000000

website

at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "John Rogers", written over a horizontal line.

For John Rogers  
Associate Director, Oil & Gas

UNITED STATES **FEB 24 2012**  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of Work: ☒ DRILL ☐ REENTER  
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

2. Name of Operator  
**PETROGLYPH OPERATING CO., INC.**

3a. Address **P.O. BOX 607,  
ROOSEVELT, UT 84066**

3b. Phone No. (Include area code)  
**(435)722-2531**

4. Location of Well (Report location clearly and in accordance with any State requirements. \*)  
At surface **900' FSL, 687' FEL, SE/SE, SEC. 18 (Surface Hole)**

At proposed prod. Zone **1570' FSL, 150' FWL, NW/SW, SEC. 17 (Bottom Hole)**

14. Distance in miles and direction from nearest town or post office\*  
**18.7 MILES SOUTHWEST OF MYTON, UTAH**

15. Distance from proposed\*  
location to nearest  
property or lease line, ft. **687'**  
(Also to nearest drig. Unit line, if any)

16. No. of Acres in lease  
**640.0**

18. Distance from proposed location\*  
to nearest well, drilling, completed, **See Topo**  
applied for, on this lease, ft. **Map "C"**

19. Proposed Depth  
**6200'**

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
**6144.3 FEET GRADED GROUND**

22. Approximate date work will start\*  
**UPON APPROVAL**

23. Estimated duration  
**45 DAYS**

**24. Attachments**

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature

Name (Printed/Typed)  
**Ed Trotter**

**RECEIVED**

Date  
**January 20, 2012**

Title  
**Agent**

**SEP 06 2012**

Approved by (Signature)

Name (Printed/Typed)

**DIV. OF OIL, GAS & MINING**

**Jerry Kenczka**

Date

**AUG 27 2012**

Title  
**Assistant Field Manager  
Lands & Mineral Resources**

Office

**VERNAL FIELD OFFICE**

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of Approval, if any, are attached.

**CONDITIONS OF APPROVAL ATTACHED**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Continued on page 2)

**NOTICE OF APPROVAL**

**12550927A**

**NOS-10/11/11**



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Petroglyph Operating CO., Inc  
Well No: Ute Tribal 18-16J  
API No: 43-013-51200

Location: SESE, Sec. 18, T5S, R3W  
Lease No: 14-20-H62-5313  
Agreement: Antelope Creek

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm_ut_vn_opreport@blm.gov">blm ut vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

Additional Stipulations:

- 1) All areas of disturbance (including surface pipelines) must have appropriate surface use agreements or approvals in place with the proper owner and/or agency before such action is started.
- 2) The conditions as set forth by those owners and/or agencies.

General Conditions of Approval:

- A 30' foot corridor right-of-way shall be approved. Upon completion of each pipeline in corridor, they shall be identified and filed with the Ute Tribe.
- A qualified Archaeologist accompanied by a Tribal Technician will monitor trenching construction of pipeline.
- The Ute Tribe Energy & Minerals Department is to be notified, in writing 48 hours prior to construction of pipeline.
- Construction Notice shall be given to the department on the Ute Tribe workdays, which are Monday through Thursday. The Company understands that they may be responsible for costs incurred by the Ute Tribe after hours.
- The Company shall inform contractors to maintain construction of pipelines within the approved ROW's.
- The Company shall assure the Ute Tribe that "ALL CONTRACTORS, INCLUDING SUB-CONTRACTORS, LEASING CONTRACTORS, AND ETC." have acquired a current and valid Ute Tribal Business License and have "Access Permits" prior to construction, and will have these permits in all vehicles at all times.
- You are hereby notified that working under the "umbrella" of a company does not allow you to be in the field, and can be subject to those fines of the Ute Tribe Severance Tax Ordinance.
- Any deviation of submitted APD's and ROW applications the Companies will notify the Ute Tribe and BIA in writing and will receive written authorization of any such change with appropriate authorization.
- The Company will implement "Safety and Emergency Plan." The Company's safety director will ensure its compliance.
- All Company employees and/or authorized personnel (sub-contractors) in the field will have approved applicable APD's and/or ROW permits/authorizations on their person(s) during all phases of construction.
- All vehicular traffic, personnel movement, construction/restoration operations shall be confined to the area examined and approved, and to the existing roadways and/or evaluated access routes.

- All personnel will refrain from collecting artifacts, any paleontological fossils, and from disturbing any significant cultural resources in the area.
- The personnel from the Ute Tribe Energy & Minerals Department will be notified should cultural remains from subsurface deposits be exposed or identified during construction. All construction will cease.
- All mitigative stipulations contained in the Bureau of Indian Affairs Site Specific Environmental Assessment (EA) will be strictly adhered.
- Upon completion of Application for Corridor Right-Way, the company will notify the Ute Tribe Energy & Minerals Department, so that a Tribal Technician can verify Affidavit of Completion.



**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- Production casing cement shall be brought up and into the surface.
- A variance is granted for Onshore Order #2 Drilling Operations III. E. "Blooie line discharge 100 feet from well bore and securely anchored" Blooie line can be 75 feet. All requirements will be adhered to covering air/gas drilling operations as described in Onshore Order #2 III. E. 1. Drilling Operations, Special Drilling Operations, air/gas drilling.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-H62-4633
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500 , Bosie, ID, 83703		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 18-16J
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0900 FSL 0687 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 05.0S Range: 03.0W Meridian: U		<b>9. API NUMBER:</b> 43013512000000
<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK		<b>COUNTY:</b> DUCHESNE
<b>STATE:</b> UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: <b>11/7/2012</b>	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 We spudded this well on 11/7/2012. We set 40' of 16" Conductor.

Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
**FOR RECORD ONLY**  
 November 09, 2012

<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado	<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/8/2012	

CONFIDENTIAL

BLM - Vernal Field Office - Notification Form

Operator Petroglyph Operating Rig Name/# Craig's/Air rig  
Submitted By Rodrigo Jurado Phone Number 435-722-5302  
Well Name/Number Ute Tribal 18-16J  
Qtr/Qtr SE/SE Section 18 Township 5S Range 3W  
Lease Serial Number 14-20-H62-3513  
API Number 43-013-51200

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 11/7/2012 8:00 AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☐ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

RECEIVED

NOV 06 2012

DIV. OF OIL, GAS & MINING

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks We intend to spud at the time indicated and run 40' of 16" Conductor. (Sent 11/6/2012 @ 9:50 A.M.)



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: Petroglyph Operating Company Operator Account Number: N 3800  
Address: P.O. Box 607  
city Roosevelt  
state UT zip 84066 Phone Number: (435) 722-2531

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301351200	Ute Tribal 18-16J		SESE	18	5S	3W	Duchesne
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	12084	11/7/2012			11/9/2012	
Comments: Please add to existing Ute Tribal 18-15 Tank Battery. BHL: S17NWSW GRRV <span style="float: right;"><del>CONFIDENTIAL</del></span>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301351201	Ute Tribal 18-16Q		SESE	18	5S	3W	Duchesne
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	12084	11/7/2012			11/9/2012	
Comments: Please add to existing Ute Tribal 18-15 Tank Battery BHL: S17SWSW GRRV <span style="float: right;"><del>CONFIDENTIAL</del></span>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
Comments:							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Div. of Oil, Gas & Mining

Rodrigo Jurado

Name (Please Print)

Signature

Regulatory Compliance Spc.

Title

11/8/2012

Date

## BLM - Vernal Field Office - Notification Form

Operator Petroglyph Operating Rig Name/# Craig's/Air rig  
Submitted By Rodrigo Jurado Phone Number 435-722-5302  
Well Name/Number Ute Tribal 18-16J  
Qtr/Qtr SE/SE Section 18 Township 5S Range 3W  
Lease Serial Number 14-20-H62-3513  
API Number 43-013-51200

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

Date/Time 11/9/2012 12:00 AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

RECEIVED

NOV 08 2012

DIV. OF OIL, GAS &amp; MINING

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks We intend to run +/- 500' of J-55 Casing.  
(sent 11/8/2012 @ 8:15 A.M.)

## BLM - Vernal Field Office - Notification Form

Operator Petroglyph Operating Rig Name/# Aztec # 673  
Submitted By Kenny Gray Phone Number 970-361-3271  
Well Name/Number Ute Tribal 18-16J  
Qtr/Qtr SE/SE Section 18 Township 5S Range 3W  
Lease Serial Number 14-20-H62-3513  
API Number 43-013-51200

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☐ Surface Casing
- ☐ Intermediate Casing
- ☒ Production Casing
- ☐ Liner
- ☐ Other

RECEIVED

NOV 27 2012

DIV. OF OIL, GAS &amp; MINING

Date/Time 11/28/2012 7:00 AM ☐ PM ☒

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks 6110' 5 1/2" Csg.

## BLM - Vernal Field Office - Notification Form

Operator Petroglyph Operating Rig Name/# Aztec 673  
Submitted By Kenny Gray Phone Number 970-361-3271  
Well Name/Number Ute Tribal 18-16J  
Qtr/Qtr SE/SE Section 18 Township 5S Range 3W  
Lease Serial Number 14-20-H62-3513  
API Number 43-013-51200

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☐ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

BOPE

- ☒ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

RECEIVED

NOV 27 2012

DIV. OF OIL, GAS &amp; MINING

Date/Time 11/24/2012 7:00 AM ☒ PM ☐

Remarks \_\_\_\_\_  
\_\_\_\_\_

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>																														
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-H62-4633																														
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In																														
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK																														
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500, Bosie, ID, 83703		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 18-16J																														
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0900 FSL 0687 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 05.0S Range: 03.0W Meridian: U		<b>9. API NUMBER:</b> 43013512000000																														
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<b>STATE:</b> UTAH																																
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>																															
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 1/10/2013  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%;"> <tr> <td><input type="checkbox"/> ACIDIZE</td> <td><input type="checkbox"/> ALTER CASING</td> <td><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td><input type="checkbox"/> CHANGE TUBING</td> <td><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td><input type="checkbox"/> CHANGE WELL STATUS</td> <td><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td><input type="checkbox"/> DEEPEN</td> <td><input checked="" type="checkbox"/> FRACTURE TREAT</td> <td><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td><input type="checkbox"/> OPERATOR CHANGE</td> <td><input type="checkbox"/> PLUG AND ABANDON</td> <td><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td><input type="checkbox"/> PRODUCTION START OR RESUME</td> <td><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td><input type="checkbox"/> TUBING REPAIR</td> <td><input type="checkbox"/> VENT OR FLARE</td> <td><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td><input type="checkbox"/> WATER SHUTOFF</td> <td><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td><input type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td><input type="checkbox"/> OTHER</td> <td>OTHER: <input style="width: 100px;" type="text"/></td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN	<input checked="" type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  On or around 1/10/2013, depending on equipment availability, Petroglyph Operating intends to perforate and frac the following intervals: 4160-82, 4204-10, 4225-30, 4232-40, 4305-09, 4350-80, 4412-18, 4448-51, 4640-46, 4653-57, 4707-15, 4730-35, 4930-35, 4960-65, 4990-92, 5665-69, 5679-92, 5777-80, 5808-11, 5834-36, 5842-44 & 5882-91. We will perforate using 3-1/8" perf guns containing 22.7 gram charges, 0.42" EHD, 23.54" TTP @ 4 spf @ 120* phased. We will frac using Delta 140 15# gelled fluid containing 20/40 mesh sand and isolate zones with Halliburton 8K Composite Plugs.																																
<b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> December 31, 2012  <b>By:</b> <u>Derek Quist</u>																																
<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado	<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc																														
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/31/2012																															

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-H62-4633
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>1. TYPE OF WELL</b> Oil Well		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 18-16J
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500, Boise, ID, 83703		<b>9. API NUMBER:</b> 43013512000000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0900 FSL 0687 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 05.0S Range: 03.0W Meridian: U		<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK
		<b>COUNTY:</b> DUCHESNE
		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <b>1/25/2013</b>	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	OTHER: <input style="width: 100px;" type="text"/>	
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input type="checkbox"/> DRILLING REPORT Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The date of first production for this well was 1/25/2013.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 February 21, 2013

<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado	<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/1/2013	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-H62-4633
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute In
<b>2. NAME OF OPERATOR:</b> PETROGLYPH OPERATING CO		<b>7. UNIT or CA AGREEMENT NAME:</b> ANTELOPE CREEK
<b>3. ADDRESS OF OPERATOR:</b> 960 Broadway Avenue, Ste 500, Boise, ID, 83703		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 18-16J
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0900 FSL 0687 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 18 Township: 05.0S Range: 03.0W Meridian: U		<b>9. API NUMBER:</b> 43013512000000
<b>PHONE NUMBER:</b> 208 685-7685 Ext		<b>9. FIELD and POOL or WILDCAT:</b> ANTELOPE CREEK
<b>COUNTY:</b> DUCHESNE		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input checked="" type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION	OTHER: <input style="width: 100px;" type="text"/>
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <b>1/29/2013</b>				
<input type="checkbox"/> SPUD REPORT Date of Spud:				
<input type="checkbox"/> DRILLING REPORT Report Date:				

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  

On 12/28/2012 Petroglyph Operating ran GR/CBL & found ETOC @ 86'.

On 1/11/13 we then perf'd the following: 5882-91, 5842-44, 5834-36, 5808-11, 5777-80, 5679-92, 5665-69, 4990-92, 4960-65, 4930-35, 4730-35, 4707-15, 4653-57, 4640-46, 4448-51, 4412-18, 4350-80, 4305-08, 4232-40, 4225-30, 4204-10, 4160-82. Using Halliburton 8K Composite plugs for isolation, we frac'd the following: 5777-5891: 574 Bbls cont 40016#'s sand 5665-5692: 547 Bbls cont 45129#'s sand 4930-4992: 426 Bbls cont 25200#'s sand 4640-4735: 1016 Bbls cont 44857#'s sand 4412-4451: 361 Bbls cont 20000#'s sand 4305-4380: 1021 Bbls cont 85000#'s sand 4160-4249: 1060 Bbls cont 90000#'s sand We perf'd w/ Titan 3-1/8" guns cont 22.7 gram charges, 0.42"EHD, 23.54"TTP @ 4 spf @ 120\* phased & frac'd w/ Delta 140 15# gelled fluid cont 20/40 mesh sand. Plugs drilled and cleaned out to 6043. We then ran pump and ptp on 1/29/2013.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 March 08, 2013

<b>NAME (PLEASE PRINT)</b> Rodrigo Jurado	<b>PHONE NUMBER</b> 435 722-5302	<b>TITLE</b> Regulatory & Compliance Spc
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/6/2013	

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**CONFIDENTIAL**

AMENDED REPORT ☐ FORM 8

(highlight changes)

LEASE DESIGNATION AND SERIAL NUMBER:

14-20-H62-3513

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER \_\_\_\_\_  
b. TYPE OF WORK: NEW WELL ☒ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER \_\_\_\_\_

2. NAME OF OPERATOR:  
Petroglyph Operating Company, Inc.

3. ADDRESS OF OPERATOR:  
P.O. Box 607 CITY Roosevelt STATE UT ZIP 84066

PHONE NUMBER:  
(435) 722-2531

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: 900' FSL, 687' FEL  
AT TOP PRODUCING INTERVAL REPORTED BELOW: 1461' FSL, 72' FWL NWSW Sec. 17 T5S R3W  
AT TOTAL DEPTH: 1505' FSL, 190' FWL NWSW Sec 17 T5S R3W

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Ute Indian Tribe

7. UNIT or CA AGREEMENT NAME  
14-20-H62-4650

8. WELL NAME and NUMBER:  
Ute Tribal 18-16J

9. API NUMBER:  
4301351200

10. FIELD AND POOL, OR WILDCAT  
Antelope Creek

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
SESE 18 5S 3W U

12. COUNTY  
Duchesne

13. STATE  
UTAH

14. DATE SPUDED: 11/7/2012 15. DATE T.D. REACHED: 11/28/2012 16. DATE COMPLETED: 1/29/2013 ABANDONED ☐ READY TO PRODUCE ☒

17. ELEVATIONS (DF, RKB, RT, GL):  
6159' RKB

18. TOTAL DEPTH: MD 6,110 TVD 5,954 19. PLUG BACK T.D.: MD 6,043 TVD 5,887

20. IF MULTIPLE COMPLETIONS, HOW MANY? \*

21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

Spectral Density Dual Spaced Neutron, ACTR, CBL, Borehole Volume Plot

23. WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)  
WAS DST RUN? NO ☒ YES ☐ (Submit report)  
DIRECTIONAL SURVEY? NO ☐ YES ☒ (Submit copy)

**24. CASING AND LINER RECORD (Report all strings set in well)**

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20	18 J-55	75	0	54				Conductor	
12.25	8.625 J-55	24	0	513		G 350	72	0	
7.875	5.5 J-55	15.5	0	6,100		G 901	280	86' CBL	

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.875	5,889							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) Green River	4,160	5,891	4,013	5,735	4,160 5,891	0.42	616	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**27. PERFORATION RECORD**

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
4,160'-5,891'	5,005 Bbls of Delta 140 15# gelled fluid containing 350,202#'s of 20/40 Mesh Sand.

**29. ENCLOSED ATTACHMENTS:**

☒ ELECTRICAL/MECHANICAL LOGS  
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

☐ GEOLOGIC REPORT  
☐ CORE ANALYSIS

☐ DST REPORT ☒ DIRECTIONAL SURVEY  
☒ OTHER: UDOGM Form 7

**30. WELL STATUS:**

POW

RECEIVED

MAR 22 2013



## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 1/25/2013	TEST DATE: 2/11/2013	HOURS TESTED: 24	TEST PRODUCTION RATES: →	OIL – BBL: 134	GAS – MCF: 29	WATER – BBL: 19	PROD. METHOD: Rod Pump
CHOKE SIZE: 34/64	TBG. PRESS. 100	CSG. PRESS. 225	API GRAVITY 37.80	BTU – GAS 1	GAS/OIL RATIO 216	24 HR PRODUCTION RATES: →	INTERVAL STATUS: Open

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

Used on Lease

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Trona	2,289
				Mahogany	2,551
				Garden Gulch	3,600
				B Marker	4,018
				X Marker	4,528
				Y Marker	4,562
				Douglas Creek	4,671
				B Lime	5,064
				Castle Peak	5,613
				Basal Carbonate	6,026

## 35. ADDITIONAL REMARKS (Include plugging procedure)

All Frac and Perf info is condensed. Please see NOI and Subsequent Frac Sundry for detailed record.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Rodrigo JuradoTITLE Regulatory Compliance SpecialistSIGNATURE DATE 3/18/13

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation

- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 7

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well name and number: Ute Tribal 18-16J

API number: 4301351200

Well Location: QQ SESE Section 18 Township 5S Range 3W County Duchesne

Well operator: Petroglyph Operating Company, Inc.

Address: P.O. Box 607

city Roosevelt state UT zip 84066

Phone: (435) 722-2531

Drilling contractor: ProPetro Service

Address: 1422 East 1500 South

city Vernal state UT zip 84078

Phone: (435) 789-4729

Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
0	505	0	No Water Encountered

Formation tops:  
(Top to Bottom)

1	2	3
4	5	6
7	8	9
10	11	12

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge.

NAME (PLEASE PRINT) Rodrigo Jurado

TITLE Regulatory Compliance Spc

SIGNATURE 

DATE 11/10/2012

**Job Number:** UT121031  
**Company:** Petroglyph  
**Lease/Well:** Ute Tribal 18-16J  
**Location:** Section 18 T5S, R3W  
**Rig Name:** Aztec 673  
**RKB:** 6159'  
**G.L. or M.S.L.:** GL- 6144'

**State/Country:** UT/USA  
**Declination:** 11.21  
**Grid:** True  
**File name:** C:\WINSERVE\UT121031.SVY  
**Date/Time:** 28-Nov-12 / 06:56  
**Curve Name:** Ute Tribal 18-16J

### Payzone Directional

WINSERVE SURVEY CALCULATIONS  
*Minimum Curvature Method*  
*Vertical Section Plane 54.18*  
*Vertical Section Referenced to Wellhead*  
*Rectangular Coordinates Referenced to Wellhead*

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>CLOSURE Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
558.00	.18	226.45	558.00	-.60	-.64	-.87	.88	226.45	.03
619.00	.22	50.54	619.00	-.60	-.61	-.85	.86	225.89	.66
680.00	1.58	28.66	679.99	.22	-.12	.03	.25	330.95	2.26
740.00	3.03	36.30	739.94	2.22	1.22	2.29	2.53	28.68	2.47
801.00	4.02	46.76	800.82	4.99	3.73	5.94	6.22	36.78	1.93
863.00	4.70	53.31	862.65	7.99	7.35	10.63	10.86	42.60	1.36
894.00	5.36	53.22	893.53	9.62	9.53	13.35	13.54	44.73	2.13
956.00	6.50	55.51	955.19	13.34	14.74	19.76	19.88	47.85	1.88
1018.00	7.82	58.41	1016.71	17.54	21.22	27.47	27.53	50.44	2.21
1080.00	8.17	57.26	1078.11	22.13	28.52	36.08	36.10	52.20	.62
1142.00	8.24	55.53	1139.47	27.02	35.89	44.92	44.93	53.02	.41

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1204.00	8.79	55.29	1200.79	32.24	43.45	54.10	54.10	53.43	.89
1266.00	8.96	54.10	1262.05	37.77	51.25	63.66	63.66	53.62	.40
1328.00	9.45	53.92	1323.25	43.59	59.28	73.58	73.58	53.67	.79
1390.00	9.58	54.01	1384.39	49.62	67.56	83.83	83.83	53.70	.21
1452.00	10.33	53.66	1445.46	55.95	76.22	94.54	94.55	53.72	1.21
1514.00	10.94	54.19	1506.39	62.69	85.47	105.99	105.99	53.74	1.00
1576.00	11.65	59.15	1567.19	69.34	95.61	118.11	118.11	54.05	1.94
1638.00	12.92	58.98	1627.77	76.12	106.93	131.25	131.25	54.55	2.05
1700.00	13.80	55.59	1688.10	83.87	118.97	145.55	145.56	54.82	1.90
1762.00	14.23	54.86	1748.25	92.44	131.30	160.56	160.57	54.85	.75
1824.00	14.94	54.72	1808.25	101.44	144.06	176.17	176.19	54.85	1.15
1886.00	15.38	54.45	1868.09	110.83	157.27	192.39	192.40	54.83	.72
1948.00	17.30	52.78	1927.59	121.19	171.30	209.83	209.84	54.72	3.19
2010.00	18.00	50.50	1986.67	132.86	186.03	228.60	228.61	54.47	1.59
2072.00	18.87	50.50	2045.49	145.33	201.16	248.17	248.17	54.15	1.40
2134.00	18.68	50.80	2104.19	157.99	216.59	268.09	268.09	53.89	.34
2196.00	19.34	50.67	2162.81	170.77	232.23	288.24	288.26	53.67	1.07
2258.00	20.48	51.20	2221.10	184.07	248.62	309.32	309.35	53.49	1.86
2320.00	21.01	50.67	2279.08	197.91	265.67	331.25	331.29	53.32	.91
2382.00	20.52	50.54	2337.05	211.86	282.66	353.19	353.25	53.15	.79
2444.00	20.10	52.05	2395.20	225.32	299.45	374.68	374.75	53.04	1.08
2506.00	20.35	53.40	2453.38	238.30	316.51	396.10	396.18	53.02	.85
2568.00	20.83	52.83	2511.41	251.39	333.95	417.90	417.99	53.03	.84
2630.00	20.92	53.09	2569.35	264.69	351.58	439.99	440.08	53.02	.21
2692.00	21.31	53.79	2627.18	278.00	369.52	462.32	462.42	53.05	.75
2754.00	20.87	53.09	2685.03	291.28	387.44	484.63	484.72	53.06	.82
2817.00	20.26	53.66	2744.01	304.49	405.20	506.76	506.85	53.08	1.02
2879.00	19.78	55.86	2802.27	316.74	422.53	527.98	528.07	53.14	1.44
2941.00	20.65	55.90	2860.45	328.75	440.27	549.39	549.47	53.25	1.40
3003.00	20.21	54.94	2918.55	341.04	458.08	571.03	571.09	53.33	.89
3065.00	20.26	52.34	2976.72	353.75	475.35	592.47	592.53	53.34	1.45
3127.00	20.52	53.27	3034.84	366.80	492.56	614.06	614.13	53.33	.67

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Distance FT	C L O S U R E Direction Deg	Dogleg Severity Deg/100
3189.00	21.49	52.78	3092.72	380.17	510.31	636.28	636.35	53.31	1.59
3251.00	22.15	53.84	3150.28	393.94	528.79	659.32	659.40	53.31	1.24
3313.00	22.10	54.80	3207.71	407.56	547.76	682.67	682.74	53.35	.59
3375.00	21.62	54.54	3265.25	420.91	566.59	705.76	705.82	53.39	.79
3437.00	20.65	53.75	3323.08	434.00	584.71	728.11	728.18	53.42	1.63
3499.00	20.00	54.94	3381.22	446.55	602.21	749.65	749.71	53.44	1.24
3561.00	19.29	53.75	3439.61	458.70	619.14	770.49	770.55	53.47	1.31
3623.00	18.06	53.50	3498.35	470.47	635.13	790.34	790.40	53.47	1.99
3685.00	18.19	51.00	3557.27	482.28	650.38	809.61	809.68	53.44	1.27
3747.00	17.75	50.00	3616.25	494.44	665.14	828.70	828.78	53.37	.87
3809.00	17.01	51.55	3675.42	506.16	679.48	847.18	847.28	53.32	1.41
3871.00	16.35	52.34	3734.81	517.13	693.49	864.97	865.07	53.29	1.13
3933.00	15.91	55.42	3794.37	527.28	707.39	882.18	882.29	53.30	1.55
3995.00	15.51	57.62	3854.05	536.55	721.39	898.96	899.05	53.36	1.16
4057.00	14.50	56.47	3913.94	545.27	734.86	914.99	915.07	53.42	1.70
4120.00	13.45	56.61	3975.07	553.66	747.56	930.19	930.26	53.48	1.67
4182.00	12.57	59.81	4035.48	561.02	759.41	944.11	944.16	53.54	1.83
4244.00	12.30	63.89	4096.03	567.32	771.17	957.33	957.37	53.66	1.48
4306.00	11.87	63.35	4156.65	573.09	782.80	970.13	970.16	53.79	.72
4368.00	11.25	63.24	4217.40	578.67	793.90	982.40	982.41	53.91	1.00
4429.00	10.50	63.37	4277.30	583.84	804.18	993.76	993.77	54.02	1.23
4491.00	9.84	64.96	4338.33	588.62	814.03	1004.55	1004.55	54.13	1.16
4554.00	8.96	65.53	4400.48	592.93	823.37	1014.64	1014.64	54.24	1.40
4616.00	7.60	68.95	4461.83	596.40	831.59	1023.34	1023.35	54.35	2.33
4677.00	6.86	70.01	4522.35	599.09	838.78	1030.75	1030.76	54.46	1.23
4740.00	6.24	69.90	4584.93	601.56	845.53	1037.66	1037.69	54.57	.98
4802.00	5.58	70.10	4646.60	603.74	851.53	1043.81	1043.84	54.66	1.07
4864.00	4.48	65.04	4708.36	605.79	856.56	1049.08	1049.13	54.73	1.91
4926.00	3.82	58.32	4770.20	607.90	860.51	1053.52	1053.58	54.76	1.32
4988.00	3.34	60.12	4832.08	609.88	863.84	1057.38	1057.44	54.78	.80
5050.00	2.94	59.42	4893.99	611.59	866.77	1060.76	1060.82	54.79	.65
5112.00	2.33	60.91	4955.92	613.01	869.24	1063.59	1063.66	54.81	.99

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
5174.00	1.93	62.98	5017.88	614.10	871.27	1065.88	1065.94	54.82	.66
5236.00	1.36	65.04	5079.85	614.88	872.87	1067.63	1067.70	54.84	.92
5298.00	1.05	74.14	5141.84	615.35	874.08	1068.89	1068.96	54.85	.59
5360.00	.35	114.39	5203.83	615.42	874.80	1069.51	1069.59	54.87	1.31
5422.00	.44	169.94	5265.83	615.11	875.02	1069.51	1069.59	54.89	.61
5484.00	1.01	188.88	5327.83	614.34	874.98	1069.02	1069.11	54.93	.99
5546.00	1.20	189.40	5389.82	613.16	874.78	1068.17	1068.27	54.97	.31
5608.00	.88	167.92	5451.81	612.05	874.78	1067.52	1067.63	55.02	.80
5670.00	.66	158.73	5513.80	611.25	875.01	1067.24	1067.37	55.06	.41
5733.00	.62	159.22	5576.80	610.60	875.26	1067.06	1067.20	55.10	.06
5795.00	.70	154.56	5638.79	609.94	875.54	1066.90	1067.05	55.14	.16
5857.00	.88	147.00	5700.79	609.20	875.96	1066.81	1066.98	55.18	.33
5919.00	.83	157.59	5762.78	608.38	876.39	1066.68	1066.86	55.23	.27
5980.00	.70	154.56	5823.78	607.64	876.72	1066.51	1066.71	55.27	.22
6043.00	.97	171.26	5886.77	606.77	876.97	1066.20	1066.41	55.32	.57
Last Survey Projected to TD									
6110.00	.97	171.26	5953.76	605.64	877.14	1065.69	1065.92	55.38	.00